LLOYD CHEMICAL SALES, INC.

IBLA 83-72 Decided August 13, 1984

Appeal from decision of Utah State Office, Bureau of Land Management, rejecting simultaneous oil and gas lease application U-49608.

Decision vacated; hearing ordered.

1. Oil and Gas Leases: Applications: Generally -- Oil and Gas Leases: Known Geologic Structure -- Oil and Gas Leases: Noncompetitive Leases

   Under 30 U.S.C. § 226(b) (1982), lands within the known geologic structure of a producing oil or gas field may be leased only by competitive bidding. Where lands are determined to be within such a structure after a simultaneous oil and gas lease drawing but prior to issuance of a lease, a simultaneous oil and gas lease application for such lands must be rejected. The applicant has no vested rights to issuance of a lease.

2. Administrative Practice -- Evidence: Admissibility -- Hearings -- Oil and Gas Leases: Known Geologic Structure -- Rules of Practice: Appeals: Hearings -- Rules of Practice: Evidence

   Where a simultaneous oil and gas lease applicant, whose application has been rejected because it covers land within a known geologic structure, submits probative evidence contravening the determination that the land is presumptively productive of oil and gas, which is not fully rebutted, but where, nonetheless, questions of fact remain unresolved by the record, a hearing is appropriate to establish a sufficient record to permit decision.

APPEARANCES: Leon Lloyd, president, Lloyd Chemical Sales, Inc., Midland, Texas, and Robert L. Cecil, vice president -- land, Kennedy and Mitchell, Inc., Denver, Colorado, for appellant; James A. Limb, Esq., Office of the Regional Solicitor, Intermountain Region, Salt Lake City, Utah, for Bureau of Land Management.

OPINION BY ADMINISTRATIVE JUDGE ARNESS

Lloyd Chemical Sales, Inc., has appealed from a decision of the Utah State Office, Bureau of Land Management (BLM), dated October 1, 1982, rejecting its simultaneous oil and gas lease application U-49608.

Appellant's application was drawn with second priority for parcel UT-2, situated in the SW 1/4 NE 1/4 and the NW 1/4 SE 1/4 sec. 24, T. 2 N., R. 6 E., Salt Lake meridian, Summit County, Utah, in the July 1981 simultaneous oil and gas lease drawing. The application of the first-drawn applicant was rejected by BLM by decision, dated October 8, 1981, which was affirmed by the Board on appeal in Fred E. Forster III, 65 IBLA 38 (1982). Subsequently, by memorandum, dated July 12, 1982, the Director, Minerals Management Service (MMS), informed BLM that development drilling in Summit County had expanded the Elkhorn Field known geologic structure (KGS) to include parcel UT-2 (80 acres), effective July 6, 1982. 1/ Attached to the memorandum was a map of the area surrounding parcel UT-2, which indicated the structural contours of the Twin Creek Formation underlying the area, including parcel UT-2. A note below the map indicates that the KGS was extended to include parcel UT-2, because two wells drilled by American Quasar were "producing from a structural trap in the Jurassic Twin Creek [formation]." In particular the No. 19-1 UPRR well, located in the SW 1/4 NE 1/4 sec. 19, T. 2 N., R. 7 E., Salt Lake meridian, Summit County, Utah, had been completed on September 21, 1977, for an initial production of 1,506 barrels of oil per day (BOPD) and 452,000 cubic feet of gas per day (MCFGPD) from 11,000 to 11,030 feet and the No. 19-2 UPRR well, located in the SW 1/4 NW 1/4 sec. 19, T. 2 N., R. 7 E., Salt Lake meridian, Summit County, Utah, had been completed on February 20, 1979, for an initial production of 62 BOPD, 195 barrels of water per day (BWPD) and 74 MCFGPD from 10,138 to 10,518 feet. In addition, the "dry well" located in the SW 1/4 SE 1/4 sec. 24, T. 2 N., R. 6 E., Salt Lake meridian, Summit County, Utah, had "good shows" from the Nugget Formation, which underlies the Twin Creek Formation. In its October 1982 decision, BLM rejected appellant's simultaneous oil and gas lease application because it sought land which had been determined to be within a KGS, which could only be leased by competitive bidding.

In its statement of reasons for appeal, appellant contends that BLM was required to issue a lease to the winning applicant in a simultaneous oil and gas lease drawing once the drawing had taken place, regardless of a subsequent determination that the land was within a KGS. In a supplemental statement of reasons, appellant argues that certain geological evidence does not support designation of parcel UT-2 as within a KGS. Appellant notes that the No. 24-34 Newton Sheep well, which the MMS memorandum referred to as a "dry

1/ By Secretarial Order No. 3087, dated Dec. 3, 1982, the Secretary consolidated the onshore mineral leasing functions of MMS and BLM within BLM. Further reference in the decision will be to MMS, since MMS was the responsible agency during the relevant KGS determination.

well," had been shown to lack a reservoir upon completion. 2/ In particular, no oil or gas was recovered from either the Nugget or Twin Creek Formations. See Appellant's Exh. D. The well was plugged and abandoned on April 13, 1981. Similarly, the No. 19-3 UPRR well, located in the SW 1/4 SW 1/4 sec. 19, T. 2 N., R. 7 E., Salt Lake meridian, Summit County, Utah, and the No. 17-1 UPRR well, located in the SW 1/4 SW 1/4 sec. 17, T. 2 N., R. 7 E., Salt Lake meridian, Summit County, Utah, have been plugged and abandoned since April 13, 1981. Appellant reports that the No. 19-1 UPRR and No. 19-2 UPRR wells were not producing at the time of the July 1982 MMS memorandum, having been shut-in since December 1981 and late 1979, respectively. The No. 19-1 UPRR well reached its economic limit for production at 12 BOPD and 275 BWPD in December 1981. The No. 19-2 UPRR well had produced only 4,303 BO prior to being shut-in. Appellant also states that the structural data on the No. 19-1 UPRR and No. 24-34 Newton Sheep wells indicate that the potentially productive zone underlying parcel UT-2 is down-dip of a well which "watered out," presumably the No. 24-34 Newton Sheep. In a second supplemental statement of reasons, appellant argues that the MMS structural contours map is "inaccurate." Based on drilling data from the No. 19-1 UPRR, No. 19-2 UPRR, and No. 24-34 Newton Sheep wells, which lie generally on a northeast-southwest line, appellant made a structural cross section of Twin Creek Formation between those wells (Exh. C). This cross section indicates that the high point of the productive zones of the Twin Creek Formation are in the east half of sec. 19, T. 2 N., R. 7 E., Salt Lake meridian, Summit County, Utah, and not the west half, as MMS concluded, and that these zones continue down-dip from the No. 19-1 UPRR well to the No. 24-34 Newton Sheep well. On an attached map (Exh. B), appellant depicts the structural contours of the Twin Creek Formation. Appellant concludes that, because it is reasonable to assume that the oil/water contact point in the Twin Creek Formation was raised by 4 years of production for the No. 19-1 UPRR well, any well "topping the Twin Creek Formation low to the No. 19-1 UPRR should be 'wet.'" This is true of the No. 24-34 Newton Sheep well which produced water with only slight shows of oil. The No. 19-2 UPRR well, further up-dip, produced very little oil before being shut-in. In any case, appellant's map depicts almost all of sec. 24, which is adjacent to sec. 19 and includes parcel UT-2, as down-dip of an original oil/water contact point. Appellant concludes that the "low structural position of the pay zones in section 24 indicates the lease UT-2 is not part of the Elkhorn KGS."

[1] Section 17(b) of the Mineral Leasing Act, as amended, 30 U.S.C. § 226(b) (1982), provides that public domain lands which are within the KGS of a producing oil or gas field "shall be leased * * * by competitive bidding." See 43 CFR 3101.1-1(a). Thus, we have consistently held that where lands embraced in a noncompetitive oil and gas lease offer are designated as within a KGS prior to issuance of the lease, the lease offer must be rejected.

2/ In a second supplemental statement of reasons, appellant reported that the No. 24-34 Newton Sheep well, which had oil and gas shows in the Watton Canyon Member of the Twin Creek Formation, had drill stem tested "tight," which was confirmed upon completion by a limited fluid recovery (water with only "slight" shows of oil) and extremely low formation pressures. These factors indicate the lack of a reservoir. The No. 24-34 Newton Sheep well is located less than a quarter-mile south of parcel UT-2.

R. C. Altrogee, 78 IBLA 24 (1983), and cases cited therein; 43 CFR 3112.6-2(b) (1982). The Department simply has no discretion to issue a noncompetitive oil and gas lease for such lands. McDade v. Morton, 353 F. Supp. 1006 (D.D.C. 1973), aff'd, 494 F.2d 1156 (D.C. Cir. 1974); Frederick W. Lowey, 76 IBLA 195, 198 (1983).

[2] Appellant, however, challenges the determination that parcel UT-2 is situated within a KGS. The burden of proving that the determination is in error is on appellant. R. C. Altrogee, supra. KGS is defined as "technically the trap in which an accumulation of oil or gas has been discovered by drilling and determined to be productive, the limits of which include all acreage that is presumptively productive." 43 CFR 3100.0-5(a).

As we said in Robert G. Lynn, 61 IBLA 153, 154-55 (1982): "KGS designation recognizes the existence of a continuous entrapping structure on some part of which there is production. KGS designation does not indicate what is known of the productivity of the lands in a structure. Nor does it predict future productivity." Indeed, a KGS designation of certain land may be made on the basis of drill stem tests, not just completed producing wells, which indicate that a reservoir which extends under such lands is productive. William T. Alexander, 21 IBLA 56 (1975).

The evidence offered by MMS in support of its KGS determination indicates that parcel UT-2 is presumptively productive because it is underlain by a "structural trap," namely, the Twin Creek Formation, which had been demonstrated to be initially productive based on nearby wells. Appellant does not challenge the fact that the Twin Creek Formation extends under parcel UT-2. Rather, appellant contends that the Twin Creek Formation cannot be presumed to be productive of oil and gas with respect to wells drilled within parcel UT-2, relying on data drawn from the three wells, No. 19-1 UPRR, No. 19-2 UPRR, and No. 24-34 Newton Sheep. In this case, appellant went further than BLM, gathering data past the point of initial production. Such evidence was apparently available to MMS at the time of its July 1982 memorandum to BLM and even on the effective date of the KGS determination, July 6, 1982. This evidence indicates the accumulation of oil and gas in the Twin Creek Formation decreases along the northeast-southwest line from the No. 19-1 UPRR well to the No. 24-34 Newton Sheep well. More importantly, the well logs submitted by appellant indicate that this northeast-southwest line slopes downward from the No. 19-1 UPRR well to the No. 24-34 Newton Sheep well, so that oil or gas which had accumulated up-dip with respect to the No. 19-1 UPRR well cannot be presumed to be present down-dip. This was borne out by the No. 24-34 Newton Sheep well which produced only water. 3/ MMS placed the oil/water contact line running in a circular fashion through parcel UT-2, so that virtually half the area of the parcel was outside that

3/ We note, however, that the No. 24-34 Newton Sheep well tested in Watton Canyon Member of the Twin Creek Formation, but that the drilling pipe was not perforated in the Leeds Creek and Rich members, which had proved to be productive in the No. 19-2 UPPR well and the No. 19-1 UPRR well, respectively. See Appellant's Exh. C.

line. There is, however, no evidence to show the manner by which MMS's structural contour map was drawn. On the other hand, appellant's structural contour map is supported by evidence of various well logs. This map places the oil/water contact line so that all of parcel UT-2 is outside the line. Appellant has raised a substantial question of fact as to whether the structure underlying parcel UT-2 is "presumptively productive" of oil and gas, so that it is properly included within the Elkhorn Field KGS.

By order dated April 4, 1984, the Board requested BLM to submit an answer to appellant's statement of reasons, in order to facilitate consideration of the question of fact raised by appellant. On May 4, 1984, BLM submitted an answer in which it admits that there were "mistakes" in its structural contours map due to "misinformation from the commercial sources used." BLM states that it contacted American Quasar in order to obtain "more current information." Such information, BLM notes, indicates that both appellant and BLM based their conclusions as to the limits of the Elkhorn Field KGS on an incorrect assumption regarding the nature of the field, i.e., there is "intergranular porosity," whereas in actuality there is "fracture porosity." BLM states that there is no oil/water contact paralleling a particular elevation, characteristic of intergranular porosity, but, rather, "lack of consistent production from any one horizon," characteristic of fracture porosity. BLM concludes that this irregular pattern "does not allow a simple prediction of exactly where production will be found, as a well may miss the fractures by only a few feet and still be dry." However, BLM states that:

> It is our opinion that the parcel is within an area that is presumptively productive. It is within 1/2 mile of a well that had production, and there is no known limit to the field. The fact that the well to the south was dry, and the well closest to the east no longer produces, does not preclude production from the parcel, due to the nature of fracture porosity. Although American Quasar is currently of the opinion that further drilling would "probably" be uneconomical, this does not condemn the parcel. They may change their opinion as economic conditions change, and other companies may be willing to further develop the field now.

Finally, BLM states that: "The actual limits of the field are not known at this time and it is prudent for the government to presume that land which is so close to known production is also productive, where there is no good geologic reason to exclude it." (Emphasis added.) 4/

4/ Official notice is taken of pending actions which affect the regulatory basis for KGS determinations and pending judicial review which questions the validity of the Departmental scheme for making KGS determinations. See, e.g., Arkla Exploration Co. v. Texas Oil & Gas Corp., F.2d (8th Cir. 1984); BLM Instruction Memorandum No. 84-35, Subject: Procedures for Delineating the Area to be Included Within Known Geological Structures of Oil and Gas Fields (Oct. 14, 1983).

In response to BLM's answer, appellant contends that if parcel UT-2 is part of the same fracture reservoir underlying nearby wells, because it is down-dip of the oil/water contact established by the No. 19-1 UPRR well it will produce water and that if it is part of a separate reservoir, it would take a wildcat well to determine whether it will be productive. Appellant notes that the No. 19-2 UPRR and No. 24-34 Newton Sheep wells, which lack fracturing, indicate that the "fracturing is disappearing in the direction of UT-2."

BLM essentially relies, in defining the limits of the KGS to include parcel UT-2, on the proximity of known production. However, BLM has offered no positive evidence that the same reservoir, fractured or otherwise, which underlies these proximate productive wells also continues under parcel UT-2. Substantial questions concerning the geology of the area in question remain which preclude a determination on the record as now constituted. For example, the well log history summarized by appellant's exhibit C, indicates that, while the three wells drilled by American Quasar penetrate formations relevant to a KGS determination concerning the land in parcel UT-2, these formations were not all acidized or squeezed in the same fashion by each well. The significance of or reason for the dissimilar exploration methods used is not explained. 5/ From the record before us, we cannot conclude whether a reasoned determination of a KGS was made by BLM. A final determination cannot therefore be made without further fact-finding.

Therefore, pursuant to the authority delegated to the Board of Land Appeals by the Secretary of the Interior, 43 CFR 4.1, the decision appealed from is vacated and the case referred to the Hearings Division for assignment to an Administrative Law Judge who shall render a recommended decision to the Board following an evidentiary hearing.

Franklin D. Arness
Administrative Judge

We concur:

Wm. Philip Horton
Chief Administrative Judge

R. W. Mullen
Administrative Judge

5/ See note 3.